

## A NEW SPECIES OF MACROPHYA DAHLBOM (HYMENOPTERA, TENTHREDINIDAE) FROM CHINA

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**Abstract** A new sawfly species of *Macrophya* from Beijing and Tianjin is described: *M. maculipennis* sp. nov. The new species can be easily recognized by the fore wing with a large and round smoky macula below stigma. A key to known species of *Macrophya sibirica* group from China is provided.

**Key words** Hymenoptera, Tenthredinidae, *Macrophya*, new species, China.

*Macrophya maculipennis* Wei, sp. nov. is described as new to science. This new species was collected in the deciduous broad-leaved forests stand of Baxian Mountain in the Northeast of Tianjin City. In our collection there are two specimens of the species collected from Mentougou, Beijing. Types of the new species are deposited in the Insect Collection of Central South University of Forestry and Technology.

### 1 *Macrophya maculipennis* sp. nov. (Figs. 1-4)

Female. Body length 10 mm. Body and legs black; a narrow and short triangular anterior margin of labrum pale brown; a short stripe on anterior side of apex of fore femur, a short stripe on anterior side of apex of fore tibia and on dorsal side of each apex of 2nd to 5th tarsomeres of front leg, a long stripe on outer side of hind coxa, white. Body hairs silver, setae on sheath black brown. Wings subhyaline, with a large and roundish smoky macula below stigma and a short infusate stripe below basal anal cell, vein and stigma black brown (Fig. 1).

Head strongly shining, frons and inner orbits densely and shallowly punctured, interspaces between punctures narrow and polish, head otherwise sparsely and shallowly punctured; thorax feebly shining, punctures on dorsal side of pronotum shallow and dense, prescutum and scutum sparsely punctured, interspaces indistinctly microsculptured; anterior half of mesoscutellum with large and sparse punctures, interspaces shining, posterior half of mesoscutellum and posttergite coarsely punctured, almost mat; metascutellum impunctate, densely microsculptured; metapostnotum strongly shining; upper half of mesepisternum densely and deeply punctured, interspaces narrow and shining, punctures on lower half of mesepisternum very shallow, obscure; anterior half of mesepimeron densely sculptured with a shining stripe on anterior margin, posterior half with large and dense

punctures; metapleuron shallowly and densely punctured. First abdominal tergite with two central polished patches, lateral sides and other tergites finely microsculptured, impunctate. Dorsal side of hind coxa densely and shallowly punctured, shining.

Labrum feebly convex, anterior margin truncate; clypeus elevated, distinctly broader than distance between eyes, lateral sides weakly convergent forward, deeply and roundly emarginated to a depth about 4/7 length of clypeus, lateral lobes narrow and long (Fig. 2); malar space slightly narrower than radius of lateral ocellus; frons flat, middle fovea shallow, lateral fovea short; interocellar and postocellar furrows fine and shallow; postocellar area feebly elevated, broader than long as 1.7 1.0, lateral furrows fine and weak at anterior half, slightly deeper in posterior half, distinctly divergent backwards; occipital carina low, complete; head behind eyes in dorsal view distinctly narrowed. Antenna slender, as long as abdomen, pedicellum slightly broader than long, 3rd antennomere longer than 4th one as 11 7, 4th to 7th antennomeres slightly compressed, penult antennomere 2 times broader than long. Middle furrow of prescutum vestigial; mesoscutellum weakly and roundly elevated without peak and carina; posttergite with a distinctly middle carina; metascutellum and metapostnotum each with a short and low middle carina; distance between cenchri 4 times as wide as a cenchrus; mesepisternum obtusely elevated at middle, posterior corner of metepimeron subquadrate, without appendage. Inner tibial spur of hind leg slightly longer than half length of basitarsus, metabasitarsus distinctly longer than following 4 tarsomeres combined (5 4); claw without basal lobe, inner tooth as long as outer tooth. Vein cu-a joining cell 1M at basal 1/5, vein 2r joining cell 2Rs at apical 1/3, 1r-m interstitial to 2m-cu, 3r-m distinctly oblique, cell 2Rs slightly longer than 1Rs, middle petiole of anal cell as long as 1r-m; petiole of anal cell in hind

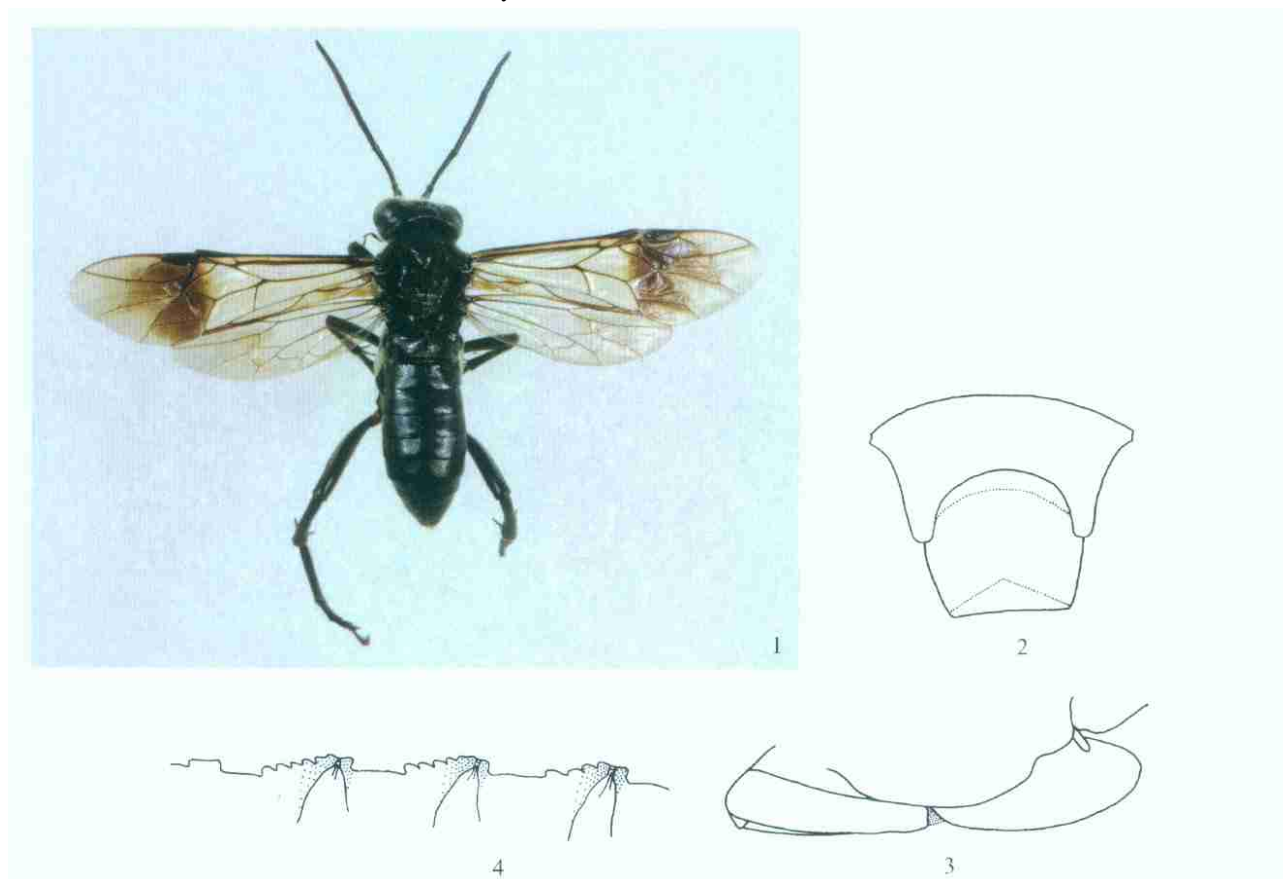
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wing slightly shorter than half length of cu-a, cu-a strongly curved. Ovipositor as long as metabasitarsus, sheath slightly longer than basal plate (Fig. 3), setae on lateral sides of sheath short, forming an angle about  $45^\circ$ ; lancet with 18 serrulae, middle serrulae weakly elevated,

oblique, with 1 inner and 5-6 outer large subbasal teeth, annual spines band very narrow, 8th-10th serrulae as in Fig. 4.

Male: unknown.



Figs. 1-4. *Macrophya maculipennis* sp. nov. 1. Adult female. 2. Clypeus and labrum. 3. Sheath in lateral view. 4. The 8th-10th serrulae.

Holotype, Juxianfeng (40°12' N, 117°33' E; alt. 1 052 m), Mt. Baxian, Tianjin, China, 20 June 2007, LI Ze-Jian. Paratypes: 1, Xiaolongmen, Mentougou, Beijing, China, 22 June 1982, LI Zhao-Hua; 1, Xiaolongmen, Mentougou, Beijing, China, July 1990, Beijing Forestry College.

Distribution. China (Beijing, Tianjin).

Etymology. The specific epithet of the new species refers to the large smoky macula below the stigma of fore wing.

Remarks. This new species is a member of *Macrophya sibirica* group and is similar to *Macrophya crassitarsalina* Wei et Chen (Wei & Chen, 2002). The new species differs from the latter in clypeus deeply emarginated with narrow and long lateral lobes; the postocellar area less than 2 times as wide as long (1.7-1.0), lateral furrows fine and shallow; cenchri small, distance between cenchri 4 times as wide as a cenchrus; head and thorax shallowly punctured with shining interspaces, punctures on mesepisternum deep with sharp

margins; the posterior corner of metepimeron angulated; the first abdominal tergite with two shining patches; fore wing with a large smoky macula below stigma, vein C black, 1r-m interstitial to 2m-cu; outer side of hind coxa with a long white stripe; the third antennomere much longer than the fourth antennomere (1.6-1.0); hind basitarsus slender, claw with inner tooth as long as outer tooth; ovipositor as long as hind basitarsus, middle serrulae obliquely elevated, with 5-6 large outer subbasal teeth (in *M. crassitarsalina*, clypeus shallowly emarginated to a depth of 1/3 length of clypeus, lateral lobes short triangular; the postocellar area more than 2 times as broad as long, lateral furrows short and deep; cenchri large, distance between cenchri 2 times as wide as a cenchrus; head and thorax densely punctured without shining interspaces, punctures on mesepisternum shallow with obscure margin; the posterior corner of metepimeron round; the first abdominal tergite densely microsculptured, without shining patch; fore wing hyaline, without smoky macula, vein C yellow brown,

1r-m remote from 2m-cu; outer side of hind coxa with a short white stripe; the third antennomere feebly longer than the fourth antennomere (1.25 1.00); hind basitarsus distinctly enlarged, claw with inner tooth distinctly shorter than outer tooth; ovipositor distinctly shorter than hind basitarsus, middle serrulae flat, with more than 20 minute outer subbasal teeth).

2 Key to species of *Macrophya sibirica* group from China

The known species of *Macrophya sibirica* group from China share following characters: body black with some white spots, without metallic tinge; legs black and white, without red macula, outer side of hind coxa with a large white spot, all trochanters, antenna and hind tarsus entirely black; metepimeron without appendage; clypeus broader than long and also broader than distance between eyes below, malar space narrower than diameter of an ocellus; mesoscutellum feebly and roundly elevated, without carina. The 6 known species of the group from China can be separated by following key.

- 1. Hind tibia with white macula; frons sparsely punctured with distinct shining interspaces; anal cell in forewing with a short cross vein or punctiform middle petiole; wings hyaline without smoky macula ..... 2  
Hind tibia black entirely; frons coarsely punctured or rugose, mat, if feebly shining, then fore wing with a large smoky macula below stigma; anal cell with a middle petiole as long as vein R + M ..... 5
- 2. Mesepisternum strongly shining, punctures minute and sparse; postocellar area broader than long as 2: 1, lateral furrow very deep along their entire length. Gansu ..... *M. potanini* Jakovlev, 1891  
Mesepisternum coarsely punctured with very narrow interspaces, less shining; postocellar area less than 2 times as broad as long, lateral furrow fine and shallow in anterior half and abruptly deepened in posterior half ..... 3
- 3. Mesoscutellum black, posterior margin of postocellar area black, or with a minute white spot in each corner ..... 4

中国钩瓣叶蜂属一新种（膜翅目，叶蜂科）

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摘 要 记述采自京津地区的 1 个叶蜂新种：宽斑钩瓣叶蜂 *Macrophya maculipennis* Wei, sp. nov.。模式标本保存于中南林业科技大学昆虫模式标本室。

宽斑钩瓣叶蜂，新种 *Macrophya maculipennis* sp. nov. (图 1~4)

新种隶属于 *Macrophya sibirica* 种团，与肿跗钩瓣叶蜂 *Macrophya crassitarsalina* Wei et Chen, 2002 较为近似，但唇基缺口很深，侧角尖长；单眼后区宽 1.7 倍于长，侧沟浅弱；后胸淡漠区小，间距 4 倍于淡漠区宽；头胸部刻点浅弱，具显著光滑间隙；中胸前侧片刻点较深，边界清晰；后胸后侧片后角方钝；腹部第 1 背板具光滑区域；前翅前缘脉黑色，翅痣下具宽大烟斑，1r-m 脉与 2m-cu 脉顶接；后足基节外侧白斑长大；后足基附节细长；爪内外齿等长；产卵器等长于后

关键词 膜翅目，叶蜂科，钩瓣叶蜂属，新种，中国。

中图分类号 Q969.542.6

- Mesoscutellum white, posterior margin of postocellar area white; serrulae strongly elevated. Heilongjiang, Jilin, Liaoning, Tianjin; Korea, E. Siberia ..... *M. sibirica* Forsius, 1918
4. Postocellar area 1.8 times as broad as long; clypeus, hind margin of postocellar area and first abdominal tergite with small white spots; middle serrulae each with 9-10 distal subbasal teeth and 3 proximal subbasal teeth. Gansu, Shaanxi, Henan, Anhui ... *M. revertana* Wei, 1998  
Postocellar area 1.4 times as broad as long; clypeus, hind margin of postocellar area and first abdominal tergite without white spot; middle serrulae each with 5-6 distal subbasal teeth and 2 proximal subbasal teeth. Zhejiang, Japan, E. Siberia ..... *M. carbonaria* Smith, 1874
5. Fore wing infusate with a large smoky macula below stigma, costal vein black; head coarsely punctured, feebly shining; hind basitarsus slender; clypeus broadly and deeply incised, lateral lobes narrow and long; third antennomere 1.6 times as long as fourth antennomere; postocellar area 1.7 times as broad as long. Beijing, Tianjin .....  
..... *M. maculipennis* sp. nov.  
Fore wing hyaline without smoky macula, costal vein pale brown; head rugose, mat, without distinct puncture; hind basitarsus distinctly enlarged; clypeus shallowly and roundly incised, lateral lobes short, triangular; third antennomere 1.25 times as long as fourth antennomere; postocellar area 2.4 times as broad as long. Henan .....  
..... *M. crassitarsalina* Wei et Chen, 2002

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足基附节；锯刃倾斜隆起，中部锯刃具 5~6 个外侧亚基齿。（后者唇基缺口深仅为唇基长的 1/3，侧角短三角形；单眼后区宽长比大于 2，侧沟短深；后胸淡膜区大，间距等于淡膜区 2 倍宽；头胸部刻点粗糙密集，无光滑间隙，中胸前侧片刻点浅弱，边缘模糊；后胸后侧片喇叭圆钝；腹部第 1 背板刻纹细密，无光滑区域；前翅透明，无烟斑，前缘脉黄褐色，1r-m 远离 2m-cu 脉；后足基节外侧白斑短小；后足基附节显著膨大，爪内齿明显短于外齿；产卵器明显短于后足基附节，锯腹片中部锯刃平坦，外侧亚基齿多于 20 枚）。

正模，天津八仙山聚仙峰，海拔 1052 m，2007-06-20，李泽建采；副模 1，北京门头沟小龙门，1982-06-22，李兆华采；1，北京门头沟小龙门，1990-07，北京林学院。

编制了 *Macrophya sibirica* 种团中国已知种类分种检索表。